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(54) COMPOSITION FOR TREATING DERMAL STAIN AND/OR DERMAL AGING AND USE THEREOF

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a composition capable of treating the dermal stains and/or dermal aging by using specific derivatives of rutin and ascorbic acid and setting the pH in the aqueous phase within a specified range.

SOLUTION: This composition comprises at least one saccharide ester of rutin and at least one saccharide ester of ascorbic acid at the pH in the aqueous phase regulated within the range of 4-6. Ascorbic acid 2-glucoside is preferred as the saccharide ester of the ascorbic acid and the composition is preferably in the form of an oil-in-water type emulsion or a dispersion of a lipid spherule. The saccharide ester of the ascorbic acid is contained in an amount of 0.01-20wt.% based on the total weight of the composition. The saccharide ester of the rutin is contained in an amount of 0.001-5wt.% based on the total weight of the composition. A hydrophilic or a lipophilic adjuvant may further be contained in the composition.

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CLAIMS

[Claim(s)]

[Claim 1]A constituent containing aqueous phase characterized by the following.

At least one saccharide ester of rutin, and at least one saccharide ester of ascorbic acid.
And pH of aqueous phase is the range of 4-6.

[Claim 2]The constituent according to claim 1, wherein saccharide ester of rutin is alpha-glucosyl rutin.

[Claim 3]The constituent according to claim 1 or 2, wherein saccharide ester of ascorbic acid is ASUKO kana roux 2-glucoside.

[Claim 4]The constituent according to any one of claims 1 to 3 being a gestalt of a dispersed matter of oil-in-water emulsion or a lipid spherulite.

[Claim 5]The constituent according to any one of claims 1 to 4, wherein saccharide ester of ascorbic acid is contained 0.01 to 20% of the weight to full weight of a constituent.

[Claim 6]The constituent according to any one of claims 1 to 5, wherein saccharide ester of rutin is contained 0.001 to 5% of the weight to full weight of a constituent.

[Claim 7]The constituent according to any one of claims 1 to 6 containing hydrophilic nature or an oleophilic adjuvant further.

[Claim 8]The constituent according to claim 7, wherein an adjuvant is chosen from a group which consists of an active agent, a gelling agent, antiseptics, perfume, bulking agents, and colors other than saccharide ester of ascorbic acid, and saccharide ester of rutin.

[Claim 9]The constituent according to any one of claims 1 to 8 containing cosmetics and/or a medium permitted dermatologically.

[Claim 10]Use of the constituent according to any one of claims 1 to 9 for protecting the skin from a free radical.

[Claim 11]Use of the constituent according to any one of claims 1 to 9 for preventing and/or

dealing with condition of aging of the skin.

[Claim 12]Use of the constituent according to any one of claims 1 to 9 for prevention of decolorization of the skin, a stain of the skin and wrinkles of the skin, and/or a fine line, and/or treatment.

[Claim 13]Use of the constituent according to any one of claims 1 to 9 for preparing cream which deals with skin disease which gives a stain to the skin.

[Claim 14]A makeup treating method of the skin consisting of applying the constituent according to any one of claims 1 to 9 to the skin.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention is used in the field of cosmetics, dermatology, or pharmaceutical sciences for the purpose of preventing and/or dealing with the stain of decolorizing the skin especially and the skin, and/or aging of the skin about the constituent containing the derivative of rutin and ascorbic acid. This constituent can be used for people's face, the body, head, arm, and/or leg.

[0002]This invention relates also to use of said constituent for preparing use of said constituent which can carry out the makeup therapy of the skin, and the cream for dermatological treatment of the skin, and a makeup treating method.

[0003]

[Description of the Prior Art]Various signs provided with the feature of aging appear in the skin as a time is formed, but especially this is reflected in the structure of the skin, and change of a function. Aging may be derived by repeating and exposing optical induction, i.e., the skin, to daylight, especially ultraviolet rays, although it is originally physiological. Especially an oxygen content free radical is formed by operation of the light to the component of the skin, and sebum secretion of the skin. These free radicals actually need to protect the skin from such a free radical in order to cause serious damage especially in a cell membrane (membranous perviousness), a nucleus (variation by the operation on RNA or DNA), and an organization (a necrosis, degeneration).

[0004]The main clinical signs of skin aging are that the fine line which increases in connection with age especially, deep wrinkles, and the tissue breakdown (microrelief) of "texture (grain)" of the skin, i.e., the microrelief of the skin, become uneven, and de facto anisotropy is seen.

[0005]Although the skin generally discolors and it looks more nearly yellow, it seems that this is based on the disease of microcirculation in indispensable (lack of hemoglobin in papillae of

corium). Many coloring and/or dark markers which give heterogeneity to the skin appear in a skin surface, especially an arm. Generally, these markers are generating [melanin / somewhat]-in epidermis and/or dermis of the skin **** things. When put intense for daylight, these markers may serve as cancer nature. In a portion with the skin, capillarectasia may happen at a distributed stimulus (diffuse irritations) and the time.

[0006]Other clinical signs about aging are desiccation and roughness of the skin.

This is based on essential more remarkable desquamation.

Such flaky structures become a cause by which is a little grayish and it is in sight by diffraction of a beam of light. [of the color of the skin]

[0007]It is thought that the clinical sign of skin aging is the cause with essential the main biological mechanisms related to the skin not functioning.

[0008]Those who have the colored skin are going to reduce the color by using decolorization and/or an anti-stain.

[0009]

[Problem(s) to be Solved by the Invention]Especially the constituent that carries out a deer and is applied to this invention is a constituent in which wrinkles, a fine line, etc. can prevent and/or deal with the condition under the start of aging of optical induction nature, and onset. This constituent can prevent and/or process decolorizing the skin and a skin coloring marker unrelated to that cause, and can protect the skin by controlling formation of an oxygen content free radical especially.

[0010]One of the known means effective for dealing with premature aging of the skin. A cell includes supplying the molecule provided with powerful reducing power to the skin by the molecule which assists the cell which protects self from the superfluous free radical by which optical induction was carried out, and the hydrophilic nature which can react to free radicals, such as a peroxide, superoxide, and a hydroxyl radical, especially.

[0011]It can deal with the above-mentioned free radical effectively, and, as for one of the above-mentioned molecules which can reinforce defense of the skin structure from an external attack (ultraviolet rays, contamination), ascorbic acid, i.e., vitamin C, is mentioned from the antioxidant power. This compound can compensate for lack of vitamin E, and can stimulate composition of connective tissue, especially dermal collagen, and can also decolorize the skin.

[0012]Unfortunately, the chemical structure and its reducing power to ascorbic acid is dramatically sensitive to an environmental parameter of a certain kind, such as light, oxygen, and water (based on existence of the pH and a little metal). Rapid disassembly of the ascorbic acid prepared under existence of these parameters with the deletion of the characteristic which prevents a desired effect takes place. This decomposition is reflected in the yellow in the constituent containing this acid / brown appearance.

[0013] Since disassembly of ascorbic acid is decreased and/or delayed, it is possible to intercept the reactive site of ascorbic acid, i.e., esterify a hydroxyl part by a saccharide. A deer is carried out and the ASUKO kana roux 2-glucoside indicated in the European patent public presentation No. 478404 gazette is known. This compound is provided with the advantage of being more stable than vitamin C. In addition to excelling in water solubility, with the enzyme of a certain skin, on the skin, biologically, since it is convertible, all the features of vitamin C are recovered at vitamin C.

[0014] This compound can be incorporated into many excipients from that good water solubility. However, these people found out that it was fitness (longer than 14 days) only within the case where the stability in an aqueous medium, especially oil-in-water emulsion of pH is higher than six. Since the expiration date of a product is not shown at the time of mounting unlike drugs, the stable period of the cosmetic composition in a room temperature must be actually longer than several months.

[0015] The following tables show the stability of 2-ASUKORUBIRUGURUKOSHIDO as correlation with pH temporally.

[Table 1]

貯蔵	0 日	光なし で14日	光の中 で14日	光の中 で30日	光の中 で60日
安定性					
水溶液の pH	2.2	2.18	2.27	2.1	2.48
残留アスコルビル-2-グル コシドの%	12.3%	11.8%	11.6%	10.4%	9.3%
安定性 (残留%/最初の%)	100%	95.9%	94.3%	84.6%	75.6%
水溶液の pH	2.7	2.7	2.8	2.59	2.59
残留アスコルビル-2-グル コシドの%	0.58%	0.57%	0.57%	0.51%	0.41%
安定性 (残留%/最初の%)	100%	96.3%	98.3%	87.9%	81%
pH (クエン酸/リン酸 バッファー)	4	3.98	3.78	3.74	3.86
残留アスコルビル-2-グル コシドの%	0.6%	0.6%	0.58%	0.54%	0.49%
安定性 (残留%/最初の%)	100%	100%	96.7%	90%	81.7%
pH (クエン酸/リン酸 バッファー)	6	6.04	5.95	5.91	6.21
残留アスコルビル-2-グル コシドの%	0.59%	0.61%	0.6%	0.61%	0.59%
安定性 (残留%/最初の%)	100%	103.4%	101.7%	103.4%	100%
pH (ホウ酸バッファー)	8	7.9	7.53	7.54	7.79
残留アスコルビル-2-グル コシドの%	0.61%	0.62%	0.62%	0.61%	0.59%
安定性 (残留%/最初の%)	100%	101.6%	101.6%	100%	96.7%

[0016] This table shows that the stability of 2-ASUKORUBIRUGURUKOSHIDO is amplified when pH is six or more. The stability in pH>6 is the right also about another saccharide ester of ascorbic acid.

[0017] Another molecules provided with known antioxidant property are flavonoids. These compounds are further provided with the advantage which is an anti-inflammatory agent as well as being an anti-superoxide-anion agent. Generally, in inactivation of an oxygen radical kind, it is effective. These features The European patent public presentation No. 275005 gazette, the European patent public presentation No. 332478 gazette, The European patent public presentation No. 267155 gazette, the patent public presentation No. 254250 gazette, The patent public presentation No. 253394 gazette, And as an anti-oxidant evaluated by chemiluminescence in . C. G. Fraga et al, Biochemical Pharmacology, vol.36, No.5, 1987, 717 - 720 pages, "in vitro, and in situ liver. ** flavonoid (Flavonoids as.) antioxydants evaluated. by in vitro and in situ liver chemiluminescence"; M. J. Alcaraz, M. J. Jimenez,

Fitoterapia, vol. LIX, No.1, 1988, 25 - 38 pages, As an "anti-inflammatory agent. ** flavonoid (Flavonoids as.) anti-inflammatory agents"; and J. Robak, R. J. Gryglewski, Biochemical Pharmacology, vol.37, No.5, 1988, 837 - 841 pages, It is indicated "for flavonoid to be an impurity remover of a superoxide anion (Flavonoids are scavengers of superoxyde anions)."

[0018]When most of these flavonoid is also unfortunately applied to the skin, it is an irritant which causes contact allergy. However, rutin, the FCA method (., H. W. Schmalle et al.,) Prog Clin. Biol. Res., vol.213, 1986, 387 -390-page" flavonoids. The chemical structure of a related compound. Stimulation force. Mode (Aspects of the relationships between chemical structure and sensitizing potency of flavonoids and related compounds of the relation between ** It is flavonoid which shows a zero value by the maximum examination using an Freund adjuvant which is indicated to ". However, rutin does not melt into deer water very only (about 0.01%), but the use is restricted except for the saccharide ester species of rutin, such as alpha-glycosyl rutin. When the saccharide ester species of rutin contacts the enzyme of the skin, it can be changed biologically, and the light stability superior to rutin is shown.

[0019]In order to obtain effective protection against a free radical and sunrays, these people, Good stability was simultaneously given to this constituent and it was realized that saccharide ester of ascorbic acid, such as ASUKO kana roux 2-glucoside, and saccharide ester of rutin, such as alpha-glycosyl rutin, were doubled in the same constituent.

[0020]However, alpha-glycosyl rutin is a solution yellow underwater, and it depends for the intensity of the color on pH. If the pH is five or less, yellow is weak intensity, i.e., yellow light from colorlessness in practice, and is temporally stable. If pH is larger than five, intensity will become a brown range from dark yellow augmentative depending on the percent of increase and alpha-glycosyl rutin. In this case, this constituent becomes unsuitable for cosmetics from a viewpoint of the viewpoint of that color to temporal discoloration.

[0021]In other words, on ASUKO kana roux 2-glucoside and a general twist target, saccharide ester of ascorbic acid is unsuitable, when the value of pH is lower than 5, but. More generally as for saccharide ester of rutin, also unfortunately, alpha-glycosyl rutin and the excipient which contains these or more in pH five will be colored.

[0022]These people actually found out that a constituent with these two types of stable molecule could be obtained by choosing pH in 4-6. It is completely surprising things that ASUKO kana roux 2-glucoside maintains stability by this pH and that the color of a constituent does not especially change temporally. ASUKO kana roux 2-glucoside in particular is not decomposed by the room temperature (about 25 **) in 12 months, but since the light yellow of this constituent does not change, alpha-glycosyl rutin is dramatically stable in this medium.

[0023]

[The means for solving a technical problem and an embodiment of the invention] Carrying out a deer, the themes of this invention are a stable constituent which is provided with high

protection power to an optical induction free radical, and makes it possible to prevent and/or deal with the stain of the external and inner skin, and/or aging of the skin effectively, especially a constituent applied locally.

[0024]As for this constituent, according to the indispensable feature of this invention, pH contains the aqueous phase of the range of 4-6, at least one saccharide ester of ascorbic acid, and at least one saccharide ester of rutin.

[0025]Carrying out the deer, this invention person found out that the saccharide derivative of ascorbic acid suits a surprising thing thoroughly with saccharide ester of rutin, and that medicine was manufactured in various excipients containing pH four to 6 water. Said derivative is especially provided with the advantage that it is very water solubility, and the advantage of saccharide ester of said rutin being physical, and not changing a chemical feature.

[0026]This constituent contains advantageously the skin containing cosmetics and/or a dermatologically permissible medium, i.e., the scalp, hair, and a nail and the suiting medium.

[0027]As for the constituent of this invention, it is advantageous to local application to take various pharmacological gestalten used for usual, and the glob of the oil distributed as a spherulite (spherules) is contained in water, solutions, aquosity or water-alcoholic gel, an oil-in-water type or a water-in-oil type emulsion, especially the aqueous phase. Polymer fine grains, such as a minute ball (nanospheres) and a minute capsule (nanocapsules), and the lipid vesicle which contains ionicity or nonionic lipid further may be sufficient as these spherulites. A deer may be carried out and cream, ointment, a lotion, or serum may be sufficient as the constituent of this invention.

[0028]This constituent makes it possible to reduce wrinkles and a fine line effectively, to change a color of the skin with more sufficient color, to decrease a stain of coloring, to remove the flaky skin, and to give more elastic stiffness to the skin. The skin is effectively protected against decolorization of sunrays and the skin.

[0029]Saccharide ester of ascorbic acid used by this invention, Especially Glucosyl of ascorbic acid, MANNOSHIRU, FURUKU tosyl, a fucosyl, They are galactosyl, N-acetyl glucosamine, N-acetyl MURAMIN derivatives, and these mixtures, They are ASUKO kana roux 2-glucoside, a 2-O-alpha-D-glucopyranosyl =L-ASUKO rubato, or a 6-O-beta-D-galactopyranosyl =L-ASUKO rubato especially. A latter compound and a manufacturing method for the same are indicated to the European patent public presentation No. 487404 gazette, the European patent public presentation No. 425066 gazette, and JO5213736.

[0030]According to this invention, quantity of a saccharide derivative of ascorbic acid is preferably chosen from 0.5 to 5 % of the weight still more preferably 0.01 to 10% of the weight 0.01 to 20% of the weight to full weight of a constituent, for example. This constituent contains one or more saccharide derivatives.

[0031]Especially saccharide derivatives of rutin used by this invention are glucosyl of rutin,

MANNOSHIRU, FURUKU tosyl, fucosyl derivatives and these mixtures, especially alpha-glucosyl rutin.

[0032]According to this invention, quantity of saccharide ester of rutin used is a quantity generally used in the field of this relation. Actually, 0.01 to 0.5 % of the weight is preferably used to full weight of a constituent 0.01 to 1% of the weight 0.001 to 5% of the weight still more preferably. This constituent may also contain saccharide ester of one or more rutin.

[0033]In order to reinforce protection power to a free radical, deferoxamine, an anti-fat hyperoxidation agent (antilipo-peroxide agents), A compound, an anti-hydroxyl radical agent which reproduce vitamin E which oxidized, Other antioxidants and/or anti-free radical molecules which were chosen from an anti-singlet oxygen agent, anti-superoxide anion free radical agents, such combination and UVA, and/or a UVB screening agent can be added.

[0034]An oil used by this invention is generally used in the field of this relation. It can be considered as silicone content and/or a fluoro oil at vegetable oil, mineral oil or synthetic oil, and arbitration.

[0035]This invention A gelling agent, an antiseptic, an opacifier, an emulsifier, an auxiliary emulsifier, Hydrophilic nature or an oleophilic adjuvant of lipophilic property other than saccharide ester species of perfume and its solubilization or a peptizing agent, a color, paints, a bulking agent, ascorbic acid, and rutin or a hydrophilic activator may also be included.

[0036]Quantity of an oil and water is generally used for the time being in the fields, and let it be the quantity depending on a pharmacological gestalt of a constituent. In a dispersed matter of an oil-in-water type by oil-in-water emulsion or a fluid spherulite (liquid spherules), an oil may exist in 2 to 40% of the weight of the range to full weight of a constituent.

[0037]Similarly, an adjuvant is used in the usual quantity and can exist in 0.1 to 20% of the weight of the range in total. It depends for such quantity on these character.

[0038]A constituent of this invention is locally applicable to all portions of the body containing scalp, a leg, and an arm and a face.

[0039]The theme of this invention is use of the above-mentioned constituent for cosmetics treatment of condition of aging of the skin especially wrinkles of the skin, and/or a fine line.

[0040]The theme of this invention is using the above-mentioned constituent, in order to decolorize the skin and to prevent and/or deal with a stain of the skin especially by aging, and in order to prepare cream for dealing with a stain of the skin of a morbid cause.

[0041]The theme of this invention is cosmetics of the skin and/or a method of dermatological treatment of consisting of applying the above-mentioned constituent to the skin.

[0042]This invention relates also to use of the above-mentioned constituent which protects the skin from a free radical.

[0043]Other features and advantages of this invention will be more clearly understood from a statement of the following given as illustration, without limiting. In an example of the following

related with cosmetics and/or a dermatology constituent concerning this invention, the daily dose is given by weight %.

[0044]

[Example]

Example 1: Oil-in-water type cream presentation A1 which prevents coloring of the skin - stearic acid 0.4% - Polyethylene-glycol stearate (40EO) (Emulsifier) 3.5% - Cetyl alcohol (auxiliary emulsifier) 3.2% - Glyceryl mono-, di- and TORIPARUMITO stearate (emulsifier) . 3.0% - the Millis Chirmiri start (oil). 2.0% - Isopropyl palmitate (oil) 7.0% - Hydrogenation isoparaffin (6 - 8-mol isobutylene) (oil) 6.5% A2 - Cyclopenta dimethylsiloxane (oil) 5.0%B - deionized water The whole. Quantity made into 100% - Glycerol (moisturizer) It is marketed from 3.0% - Hayashibara. ASUKO kana roux 2-glucoside 2.0% - alpha-glycosyl rutin 0.2% - Antiseptic 0.2%[0045]The contents of the preparation A1 of phase A1+A2 were solubilized at 80 **. When the mixture became transparent, temperature was reduced to 65 ** and A2 was added. This mixture must be transparent and uniform. It kept at 65 **.

[0046]The contents of the manufacture B were solubilized in 85 ** - 90 ** in the manufacture beaker. After checking that this solution is transparent, it cooled to 65 **. The emulsion was prepared by filling B with (A1+A2), stirring. It cooled stirring to a room temperature.

[0047]The skin was protected from the harmful influence by UV irradiation every day, and the white skin care cream for preventing the wrinkles of optical induction nature and formation of a fine line was obtained.

[0048]

Example 2 : Gel composition [for protecting from sunrays] A. - Deionized water The whole. Quantity made into 100% - Glycerol 3.0%. - MECHIRUPARA hydroxybenzoate 0.2%. - ASUKO kana roux 2-glucoside 1.0%. - alpha-glycosyl rutin 0.05% -. Xanthan gum (thickener) 0.2%B -. PARUSORU MCX (Parsol MCX) (UVB interception agent). 4.0% - alkyl benzoate (Finsolv TN and Witco) 4.0% - alkyl carboxyvinyl polymer (Pemulen TR2 and Goodrich) 0.45% - triethanolamine 0.45%[0049]The phase A was prepared by sprinkling a gelling agent, stirring in the water containing ***** or the material carried out. This mixture was emulsified by incorporating the phase B into the phase A, stirring violently. Stirring slowly by a spatula at a room temperature, it mixed, neglected and cooled until this mixture became smooth. Manufacture of gel is completion.

[0050]

The Example 3:"transparence for complexions" lotion presentation A. - Oxyethylene-ized hydrogenation recinoleic acid triglyceride (60EO) (peptizing agent) 0.09% - perfume 0.03%B - deionized water Quantity which makes the whole 100% - ASUKO kana roux 2-glucoside 1.0%. - alpha-glycosyl rutin 0.05% - Antiseptic 0.3%[0051]The contents of the manufacture A were

mixed at 40 **. After fully melting, at the room temperature, the contents of B were continued and it added. It corroborated that continued stirring and contents melted appropriately. That is, a mixture must be transparent. Manufacture was completed.

[0052]The transparent lotion which prevents and reduces coloring of the skin was obtained.

[Translation done.]